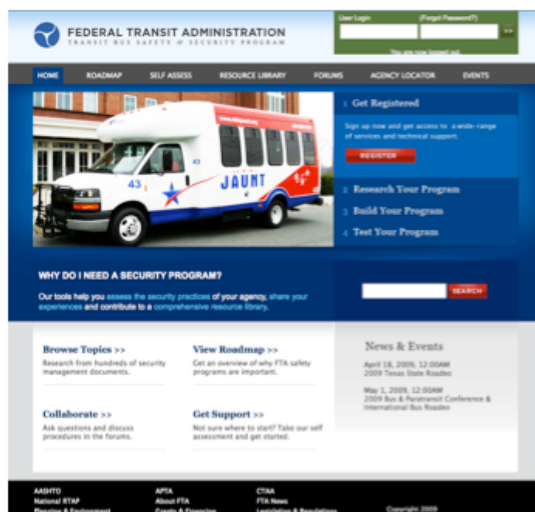


# Bus Transit Safety

## Quarterly Newsletter

### Bus Transit Safety and Security Website and Resource Library

FTA has always encouraged and valued peer-to-peer relationships, the lending of resources and the sharing of effective practices. FTA's new Bus Transit Safety and Security Resource website echoes these critical values by providing easy access to over 1,000 technical assistance documents and resources. Developed over the past year in conjunction with bus transit providers and program partners, the new website is founded on research developed by FTA's Federal, state, local, and educational partners.



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The website has been designed to provide timely, effective and practical solutions to transit agency safety, security, and emergency preparedness challenges. The materials and resources driving this interactive website are based on the experiences of bus transit providers and an ever-growing storehouse of transit information.

Many aspects of the site are available and accessible to the general public. However, taking a minute to

quickly and effortlessly register for the site, will provide users with additional benefits to move their program forward. Current website tools include:

- An extensive resource library, organized by the program's Framework for Excellence, with over 1,000 resources in the form of technical assistance documents, excerpts, links, checklists, forms and templates. The resource library can be browsed or searched by keyword, resource type, resource topic and state, and users can download identified files. In addition, FTA has broken-down larger documents into usable excerpts to further assist users. The library is constantly expanding as additional transit effective practices and technical assistance materials become available.
- A unique, cutting edge self-assessment tool that allows registered users to evaluate and track the development and implementation of their safety, security, and emergency preparedness efforts. Starting and stopping the assessment at any time is just one of the many benefits afforded by the new tool. The self-assessment is geared to help users strengthen their program by assigning specific, targeted, resources to each question. Resources are available for download at any time to help users meet their needs and demands.
- A community forum organized by the program's framework that allows registered users to ask specific questions or reply to previously posted questions. The website's forum serves as a facilitator for interaction and collaboration among agencies nationwide.
- A "focus the discussion" tool that allows users to vote on topics presented by FTA that are addressed via webinars or teleconferences in the next quarter. When necessary, FTA provides access to topic experts to help facilitate the discussion and the exchange of information.

- An agency locator which provides a national map of agencies and stakeholders that can be searched by agency, city and state. Upon clicking on a desired location, users are instantly granted with contact information for the mapped agency and a web link when available.
- A consistently updated Safety News & Events link that keeps users up to date on the latest in Bus safety and events.
- Links to key FTA, MOU partners, and other key stakeholder websites.

This Transit Bus Safety and Security Program is founded on the philosophy that "one-size does not fit all" and aims to equip small, rural and community transit providers with the tools necessary to achieve excellence in safety, security and emergency preparedness. The website's simple, user-friendly and inviting interface will make it simple for users to access the information and resources they need to improve transit bus agency programs nationwide.

## Transit Watch

Many of the nation's transit systems are aware of and participate in FTA's Transit Watch Program. However, many others still remain unclear as to what Transit Watch is, the types of resources it provides, how the program can benefit them, and how they can obtain Transit Watch materials. The following has been developed to address these questions.



## Program History and Description

The Transit Watch Program was launched in 2003 as a nationwide public awareness campaign designed to encourage the “active participation of transit passengers and employees in maintaining a safe transit environment,” and to “help foster the role of transit as a safe haven in communities across the country.” It was developed based on the results of an in-depth safety and security awareness survey that was conducted to gain quantitative and qualitative data regarding the industry’s safety and security awareness practices. The goal of the program is to provide the transit industry with a toolkit of baseline materials, templates, and resources that can be customized by each transit system to include its own specific information and to maximize interest and involvement within its own communities.


Program materials are aimed at increasing awareness so that passengers and employees can serve as the “eyes and ears” of the transit system by:

- Identifying suspicious or unusual behaviors and packages,
- Reporting their concerns to transit officials, and
- Exiting emergency events or situations safely.

Since 2003, and the original roll out of the Program, transit agencies from across the country have used the Transit Watch materials to create their own security awareness and education campaigns. As a result of its wide spread use and success, FTA has continued to work with its partners at the Department of Homeland Security (DHS), the Transportation Security Administration (TSA), and the Office of Grants and Training (G&T) to improve and build upon the initial campaign to offer additional materials and guidance to the industry.


Improvements have included developing messages pertaining to unattended bags, evacuation procedures, translating the original Transit Watch materials into Spanish, and developing a “Five Step Strategy” for use in enhancing communication with State and Local Citizen Corps Councils.

**In an evacuation**




**LOOK.**

- Locate the nearest accessible exit — it may be an emergency door or window.
- Look around as you prepare to exit the transit vehicle or facility in order to avoid hazards, such as smoke, debris and unusual substances.
- Report any hazards or unusual substances to emergency personnel.
- Notice others who may need help and offer assistance. Children, the elderly and disabled individuals may require help from others during an evacuation.



**LISTEN.**

- Pay attention to announcements.
- Listen and remain calm.
- Follow instructions from transit employees and emergency personnel.




**LEAVE.**

- Move quickly toward safety, leaving behind large or unwieldy objects like suitcases, strollers and heavy items.
- If evacuation is not possible through normal doors, use emergency doors or windows to exit safely.
- Be on the lookout for hazards and people to help, and listen to transit employees and emergency personnel as you leave the area.

**Questions?**

To learn more about what you can do to improve transit safety and security, visit us at [www.transitagencyxyz.com](http://www.transitagencyxyz.com) or call (800) 000-0000.



Let's count on each other for a safe ride

## How to Obtain Program Materials and Resources

Materials available through the program include artwork for various brochures, placards, and bus and car cards that can be edited and customized to include local transit agency logos and contact information, and any specific recommendations or text the agency would like to convey. All transit agencies can use the materials, regardless of their size, location, or mode of service. Agencies can download materials free of charge from FTA’s website (<http://transit-safety.volpe.dot.gov/Security/TransitWatch/toolkit2006.asp>).

The complete Transit Watch toolkit CD is also available for download at this website and contains:

- Transit evacuation “Listen, Look, Leave” campaign,
- Unattended items “Be Alert” and “Is this Your?” campaigns,
- “Five Step Strategy” for linking Transit Watch and Citizen Corps, and
- Spanish language translation of the original Transit Watch campaign.

Additional information pertaining to the Transit Watch Program can be obtained by contacting Gail Taylor at FTA at (202) 366-1218, Marcus Taylor at TSA at (571) 227-2183, or Heather King at G&T at (202) 786-9489.

## Connecting Communities Public Transportation Emergency Preparedness Workshops

With the goal of improving public agency interoperability during emergency incidents, FTA has partnered with Rutgers University to develop and offer the Connecting Communities Public Transportation Emergency Preparedness Workshops. These two-day, invitation-only workshops recognize that interoperability and maximum resource utilization are critically important to effective emergency management and incident response. The workshops have therefore been designed to coordinate the assets

and specialized resources of transit and transportation systems with their local, county, and state response and emergency management agencies.

Based on the National Incident Management System (NIMS) framework, the workshops combine instructor-led presentations with interactive exercises to address five primary functional areas of incident management. These include:

- **Finance and Administration:** covers areas such as personnel salaries and overtime, resource acquisition, training program development and delivery, and other administrative issues that need to be addressed prior to an incident.
- **Logistics:** addresses how agencies can improve internal and interagency communication through both technological and procedural enhancements and upgrades. This module also examines incident support such as what facilities and resources may be needed.
- **Planning:** focuses on resources, who has them, where they are, who releases them, how they are transported, and how they are returned. This module also addresses documentation.
- **Operations:** will define the role of each participating agency during an incident and how resources will be organized and managed.
- **Command Staff:** describes the hierarchy of command during an incident in addition to the management of public information and communication with the media.

Each workshop focuses on multi-agency participation and draws from the experiences and knowledge of representatives from public transit systems, private transportation companies,





emergency service agencies, health care facilities, and various levels of local, state, and federal transportation departments and other agencies. The workshops are intended to discuss the challenges faced during large-scale, multi-agency responses. This includes focusing on transit systems and community preplanning efforts for incidents involving transit assets and operations including fires, accidents or terrorist attacks. This also includes examining the role of transit and transportation systems as resources during community or regionally-based incidents such as large-scale evacuations. The workshops are intended to facilitate planning efforts between agencies, to review and learn from past experiences, to analyze best practices, and to improve overall interoperability and response during incidents. Finally, each workshop is tailored to address the potential emergencies that may be experienced at the locations where each workshop is held.

The Connecting Communities workshops are recommended for transit personnel and their surrounding law enforcement, emergency medical, and fire agencies, as well as local, state, and federal government representatives. 2009 workshops will be held in Chicago, IL, San Diego, CA, Cleveland, OH, Dallas, TX, Mobile, AL, and Boulder, CO. If you'd like to gain more information about these workshops, please visit the Connecting Communities website: ([www.connectingcommunities.net](http://www.connectingcommunities.net)), or contact Mr. Christopher Kozub, Associate Director, National Transit Institute, Rutgers, The State University of New Jersey, 120 Albany Street, Suite 250, Tower Two, New Brunswick, NJ 08901-2126. Mr. Kozub can also be reached via email at: [ckozub@nti.rutgers.edu](mailto:ckozub@nti.rutgers.edu).

## Bus Transit Maintenance Resources

The nation's bus transit systems are all too familiar with the maintenance demands placed on their systems each day. The wear and tear suffered by equipment as a result of ever changing road conditions, operating environments, and other operational demands requires every system, large or small, to establish preventive maintenance programs to keep their vehicles in service and in a state of good repair.

Although every transit system recognizes and understands the need for such programs, maintenance practices vary greatly between systems and states. This is the result of several factors. First, each state establishes and oversees compliance with its own procurement specifications and maintenance requirements and standards, leading to differing requirements between states. Second, each transit system is unique, operating diversified vehicle fleets that have become more and more technologically advanced over recent years. The maintenance requirements faced by each transit system are therefore unique to that system and in some cases more specialized as a result of operating newer buses. Finally, nearly every system faces differing resource constraints. While some systems may lack available manpower, others may lack necessary equipment or capital. As such, bus transit systems administer maintenance programs that are unique to their own constraints.

Because of these factors, and as a result of the sheer size of the nation's public bus transit industry, it is very difficult to develop standardized, "one size fits all" maintenance standards and practices for the industry. FTA has recognized the challenges this presents to the industry and has worked with both the Transit Cooperative Research Program (TCRP) and the American Public Transportation Association (APTA) to develop guidelines and technical assistance resources to address these challenges. Although many of the nation's largest bus transit systems are aware of these guidelines and technical resources, many small systems are not. As such, FTA wishes to highlight these available resources here. The following provides summaries of the resources related to bus transit maintenance that are available through TCRP and APTA.

### Bus Transit Studies Conducted by TCRP

A key component to any maintenance program is the ability to identify and maintain an ideal spare ratio of buses to improve operations and lower costs. In 1995, TCRP issued "**TCRP Synthesis 11, System Specific Spare Bus Ratios**" to examine the operational, environmental, and political factors that affect optimal fleet size at various transit agencies. This document studies how transit agencies achieve lower spare ratios while being challenged by continuing ridership fluctuations, aging fleets, operating environment conditions, diversified fleets, roadcalls, training programs, and management and finance considerations. A copy of this document can be downloaded from: [onlinepubs.trb.org/Onlinepubs/tcrp/tsyn11.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tsyn11.pdf).

In 1997, TCRP issued "**TCRP Synthesis 22, Monitoring Bus Maintenance Performance**." Through this project, TCRP examined the various

approaches used by transit agencies to monitor maintenance performance and to describe how performance measures are used to help shape maintenance programs. Maintenance performance monitoring approaches were grouped into one of four common categories: Management Philosophy, Employee Productivity, Equipment Performance, and Controlling Costs. In each category, TCRP identified common and differing approaches to maintenance performance monitoring, including the ways through which performance monitoring results could be used to improve maintenance operations. A copy of this document can be downloaded from: [onlinepubs.trb.org/Onlinepubs/tcrp/tsyn22.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tsyn22.pdf).

"**TCRP Synthesis 44, Training for Onboard Bus Electronics**," was issued in 2002, and was conducted by TCRP to identify the procedures and resources used by transit agencies to conduct employee training on advanced on-board "electrical and electronic equipment and systems." This synthesis is primarily focused on maintenance training, but also addresses issues related to procurement and operation. It provides recommendations for transit agency senior managers to improve their own training and qualifications with regard to onboard electrical and electronic equipment and systems. A trouble shooting guide for bus operators is provided as an appendix, along with sample tests that can be used to determine electrical and electronic skill levels. A copy can be downloaded from: [onlinepubs.trb.org/Onlinepubs/tcrp/tcrp\\_syn\\_44.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_syn_44.pdf).

"**TCRP Synthesis 54, Maintenance Productivity Practices**" studied the performance measures used by transit agencies to monitor and improve the productivity of their maintenance programs. It discusses industry standards, transit agency

methodologies for monitoring performance including “standard repair times,” new technologies, quality assurance, union and management issues, and training concerns. This synthesis also presents cases studies of seven transit agencies of different sizes, locations, and modes of service. A copy of this document can be downloaded from: [onlinepubs.trb.org/Onlinepubs/tcrp/tcrp\\_syn\\_54.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_syn_54.pdf).

In 2005, TCRP issued “**TCRP Report 109, A Guidebook for Developing and Sharing Bus Maintenance Practices**.” This document addresses a number of issues faced by bus transit maintenance personnel including how to best:

- obtain, apply, and prioritize reference material,
- use photographs to enhance practices,
- tailor practices to unique local conditions, and
- format, update, and validate completed practices.

TCRP Report 109 also includes seven sample practices developed from applying the Guidebook to popular maintenance jobs performed on a variety of buses operated by large and small agencies alike. The examples can be used by agencies as a starting point to prepare their own practices on similar topics. A copy of this document can be downloaded from: [onlinepubs.trb.org/Onlinepubs/tcrp/tcrp\\_rpt\\_109.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_109.pdf).

## **Bus Standards and Recommended Practices Developed by APTA**

In 1997 APTA issued its Standard Bus Procurement Guidelines for 30 and 40-foot buses through its Bus Standards Program. These standards provided the industry with commercial terms and conditions that served as “a model for solicitation of offers and

contracts for the supply of transit buses.” Since their publication, these standards have become widely used and valued by the industry. As a result, APTA has continued to develop other standards and recommended practices for the bus transit industry.

**“APTA BT-RP-001-05, Recommended Practice for Transit Bus In-Service Brake System Performance Testing,”** provides operating agencies and systems with uniform methods and criteria for performance testing of heavy duty transit buses equipped with air drum brakes. It addresses only the braking force and deceleration aspects of brake testing and does not address interlocks or emergency brake systems. Test frequency, conditions, tools, training, and burnishing procedures are also addressed.

**“APTA BT-RP-002-05, Recommended Practice for Transit Bus Foundation Brake Lining Classification,”** provides transit bus maintenance departments with typical test performance data and guidelines for “S-cam” brakes to assist them in the selection of replacement foundation brake linings. Testing procedures and an explanation of brake lining ratings are also provided.

**“APTA BTS-BC-RP-003-07, Recommended Practice for Transit Bus Brake Shoe Rebuild,”** is to be used in conjunction with the original equipment manufacturer and brake manufacturer service manuals to provide operating agencies with a uniform method of performing brake shoe rebuilds. It provides guidelines for air drum brake shoe disassembly, preparation, inspection, and assembly for heavy duty transit bus vehicles, and addresses both steel and cast iron shoes. Safety provisions, shoe preparation and inspection, and documentation procedures are also discussed.

Finally, “**APTA-BC-RP-004-07, Recommended Practice for Transit Bus Front and Rear Axle S-Cam Brake Re-line,**” provides uniform guidelines for disassembly, preparation, inspection, and reassembly of typical heavy-duty transit bus S-cam brakes. Procedures for handling hazardous materials, reviewing vehicle brake and maintenance histories, and for conducting performance based testing are also discussed.

Each of the above recommended practices are voluntary in nature and “reflect the consensus of the APTA Bus Standards Program members on the items, methods, and procedures that have provided the best performance record based on the experiences of those present and participating in meetings of the Program Task Forces and Working Groups.” They can also be modified by transit systems to meet the needs of their own specific equipment and modes of operation, as long as they meet or exceed Federal, State, and other local regulatory requirements. In addition, APTA is currently developing other standards and recommended practices for:

- Bus Rapid Transit,
- Bus Operations,
- Maintenance Training,
- Passenger Environment,
- Power Train,
- Safety,
- Specifications,
- Suspension Systems, and

- Vehicle Electronics.

Copies of these documents can be downloaded from APTA’s website at:

[www.aptastandards.com/PublishedDocuments/PublishedStandards/Bus/tabid/126/Default.aspx](http://www.aptastandards.com/PublishedDocuments/PublishedStandards/Bus/tabid/126/Default.aspx).

## Safety Tip: Guidance for the Safe Transport of Medical Oxygen within Bus Passenger Compartments

The United States Department of Transportation (DOT) recommends that bus operators take the following precautions to assure that medical oxygen being transported for passengers' personal use is handled and transported safely:

- Only transport oxygen in a cylinder maintained in accordance with the manufacturer's instructions. The manufacturer's instructions and precautions are usually printed on a label attached to the cylinder.
- Before boarding, inspect each cylinder to assure that it is free of cracks or leaks, including the area around the valve and pressure relief device. Listen for leaks; do not load leaking cylinders on the bus. Visually inspect the cylinders for dents, gouges or pits. A cylinder that is dented, gouged, or pitted should not be transported.
- Limit the number of cylinders to be transported on board the vehicle to the extent practical.
- Except in emergency situations, the bus operator should consider limiting the number of passengers requiring medical oxygen.



- Cylinders used for medical oxygen are susceptible to valve damage if dropped. Handle these cylinders with care during loading and unloading operations. Never drag or roll a cylinder. Never carry a cylinder by the valve or regulator.
- Do not handle oxygen cylinders or apparatus with hands or gloves contaminated with oil or grease.
- Secure each cylinder to prevent movement and leakage. "Secured" means the cylinder is not free to move when the vehicle is in motion. Each cylinder should be equipped with a valve protection cap.
- Never store or secure oxygen cylinders or other medical support equipment in the aisle. Make sure that the seating of the passenger requiring oxygen does not restrict access to exits or use of the aisle.
- Since the release of oxygen from a cylinder could accelerate a fire, secure each cylinder away from sources of heat or potential sparks.
- Under no circumstances should smoking or open flames (cigarette lighter or matches) be permitted in the passenger compartment when medical oxygen is present.
- When you reach your destination, immediately remove all cylinders from the bus.

## Community Transportation Association of America Training and Safety Review Program

The Community Transportation Association of America's (CTAA) Training and Safety Review Program represents a protocol for conducting onsite reviews of transit systems to certify they are addressing the critical components of safety and security, including all elements of FTA's Transit Bus Safety and Security Program.

The mission of this program is to assist in improving the professional preparedness of public and community transportation personnel, and to maximize their ability to provide safe and secure transit service. This mission is undertaken through:

- Assessment of existing operations,
- Highlighting system strengths,
- Identifying areas for improvement, and
- Making recommendations for safety, security and training program developments.

Program values are reflected in a commitment to provide non-judgmental, confidential feedback, positive reinforcement where appropriate, and to be constructive and non-punitive in nature. The program is also designed to help the transportation organization build its internal team, safely serve its customers, fulfill its responsibilities in maintaining community security, and reduce its exposure to liability. Critical areas addressed by the training and safety review program include:

1. Employee selection and qualifications,
2. Employee training,

3. Safety planning, data analysis and risk management,
4. Operating policies and procedures, including drug and alcohol compliance,
5. Emergency and crisis preparedness planning,
6. Security planning, and
7. Vehicle maintenance management.

## **The Review Process**

A qualified Training and Safety Reviewer spends time onsite at a transit organization, working through a structured series of interviews and assessments, looking at the seven critical areas. This review typically takes up to two days for most rural and small community transportation operations. At the end of that time, the reviewer will share his or her observations with the organization (or its sponsoring agency) and submit a summary report to CTAA. Assuming all seven areas meet the program's benchmarks, CTAA then issues the organization a Certificate of Participation which is valid for three years. If the transit organization doesn't meet the CTAA benchmarks, the reviewer will help the organization determine what actions will help it attain the necessary degree of performance.

## **Reviewer Qualifications**

Program Reviewers are critical to the success and integrity of this training and safety review

program. They can be transit system personnel, state employees, association staff members, third party contractors, or otherwise linked to the public and community transportation network. What is essential is that the Reviewers are fully qualified and certified through a rigorous process.

One of the criteria for becoming a Certified Reviewer is to complete CTAA's Train-the-Reviewer training course. CTAA's expectation is that qualified participants in these classes already have a thorough understanding of the managerial and supervisory aspects of the topics, as verified in the Reviewer application process.

## **Maintain Program Quality and Integrity**

There are three levels of oversight and program management to the Training and Safety Review Program. Day-to-day management and operation of the program is the responsibility of CTAA's service development team staff. A team of Master Reviewers carry out resource development and Reviewer training functions. Professional standards and quality assurance are the province of CTAA's independent National Certification Council, with additional support and resource development provided through the Bus Safety Subcommittee of the American Association of State Highway and Transportation Officials' Standing Committee on Public Transportation. Further information on the CTAA Training and Safety Review Program can be found on the CTAA web site at: [web1.ctaa.org/webmodules/ebarticles/anmviewer.asp](http://web1.ctaa.org/webmodules/ebarticles/anmviewer.asp).

# We Want Your Feedback

To provide feedback pertaining to this issue of the FTA Bus Transit Safety Quarterly Newsletter; to obtain additional information pertaining to any of the topics discussed in this issue; or to request that a specific topic of interest to your organization be discussed in upcoming issues, please contact:

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## About the Newsletter

The FTA Transit Bus Safety and Security Newsletter is a technical assistance newsletter published quarterly by the Federal Transit Administration. This Newsletter is distributed free to National and State Transit Associations, to State Departments of Transportation and other industry safety, security and emergency preparedness stakeholder. The Newsletter is also available on the FTA Bus Safety and Security Program website for use by transit agency management and staff.